

**UNITED STATES COURT OF APPEALS FOR
THE FEDERAL CIRCUIT**

2012-1309

BROADCOM CORPORATION,

Plaintiff-Appellee,

v.

EMULEX CORPORATION

Defendant-Appellant,

Appeal from the United States District Court for the Central District of California
in Case No. 09-cv-1058, Judge James L. Selna.

**DEFENDANT-APPELLANT EMULEX CORPORATION'S NON-
CONFIDENTIAL REPLY BRIEF**

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2. The name of the real party in interest (if the party name in the caption is not the real party in interest) represented by me is: N/A.
3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are: N/A.
4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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Dated: August 13, 2012

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INTRODUCTION

Broadcom wrongly asserts that Emulex waived the right to have a jury determine if the “at a rate corresponding to the frequency offset” limitation is met by the accused products. The district court rejected this waiver argument, addressing the “at a rate” language on the merits. Emulex’s appeal challenges the way the district court erroneously relied on inferences about what it assumed the accused device “must” do and the way the district court improperly resolved disputed expert testimony specifically with respect to the district court’s findings on the “at a rate” aspect of the claim.

Broadcom also tries to hold on to JMOL by reframing the “at a rate” issue as an issue of claim construction. This dispute has nothing to do with claim construction. The question is whether the trial record regarding the comparison of the accused products to claim 8 rose to the level of evidence of infringement that a jury “would not be at liberty to disbelieve,” after all inferences are taken in Emulex’s favor. It did not. Finally, although acknowledging the extraordinary nature of a district court granting JMOL of infringement, Broadcom attempts to salvage the record by pointing to supposed “admissions” by Emulex’s expert. But Emulex’s expert testified that the accused products did not have the required interpolator control module (ICM) and specifically testified that the accused products did not use the mechanism recited in the entirety of claim 8’s ICM

limitation. Any other reading of this testimony requires inferences in favor of Broadcom, the moving party, which is impermissible on JMOL.

On obviousness, Broadcom never identifies an alternative purpose for the clock recovery circuit disclosed in Pickering other than sampling data. Nor does Broadcom have any response to the specific statements in Pickering explaining his invention in the context of “communications systems” designed to achieve “high data rates.”

Finally, on injunctive relief, Broadcom’s representations to the district court regarding irreparable harm have been undermined by [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

ARGUMENT

I. A NEW TRIAL ON INFRINGEMENT OF THE '150 PATENT IS NECESSARY BECAUSE THE CONFLICTING EVIDENCE CANNOT BE RESOLVED ON JMOL.

Under this Court’s precedent, the comparison between the claim language and the accused products is a question of fact—even if the functionality of the

accused products is undisputed. The Court should reject Broadcom's attempt to convert this garden-variety factual dispute into a claim construction issue that neither party has ever previously raised.

Moreover, Emulex has consistently argued that the "half-rate" architecture of the accused products operates differently than the entire ICM limitation of claim 8. The district court analyzed and (erroneously) rejected the same argument related to the "at a rate corresponding to a frequency offset" limitation that Emulex presses on appeal. This Court should thus reject Broadcom's waiver arguments and reverse the JMOL of infringement, thereby enabling the infringement issue to be decided by a jury—as it should have been in the first instance.

A. The Parties' Dispute About How the Claim Language Compares to the Accused Products is a Factual Issue for a Jury.

The parties' dispute on infringement has always been about how the language of the "interpolator control module" (ICM) limitation compares with the functionality of the accused products. That step of an infringement analysis is a question of fact. *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1343 (Fed. Cir. 2001) ("After claim construction, the next step in an infringement analysis is comparing the properly construed claims with the allegedly infringing devices. This comparison is a question of fact").

On appeal, Broadcom attempts to turn this factual question for a jury into a legal question for the Court, arguing that "Emulex's sole challenge is a legal one"

because there is no “dispute on appeal about how any of the accused products work.” [Red. Br. at 22-23] This Court rejected that argument in *International Rectifier Corp. v. IXYS Corp.*, 361 F.3d 1363 (Fed. Cir. 2004), and vacated a judgment of infringement based on it:

[Plaintiff] argues that because the parties have stipulated for purposes of summary judgment to a simulated shape of the IXYS source and base regions, the question of infringement is a matter of law. . . . [But] only the structure of [Defendant’s] product has been stipulated to for summary judgment purposes, not the factual determination of whether that product meets one or another claim construction. Because factual issues exist as to whether [Defendant’s] devices include the “polygonal” and “annular” limitations of the claims, as properly construed, we vacate-in-part the district court’s grant of partial summary judgment in favor of [Plaintiff] that [Defendant’s] devices infringe [the] claims. . . .

Id. at 1374-75; *see also Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1301-02, 1306-08 (Fed. Cir. 2011) (rejecting the argument that infringement is a legal issue subject to *de novo* review when “there is no dispute about how the accused products work” and therefore reversing JMOL of non-infringement).

The same analysis applies here. The parties’ dispute is a factual issue involving conflicting expert testimony about how the claim language compares with the half-rate architecture of the accused products. That is a quintessential question of fact that cannot be taken from the jury at JMOL. *See id.*; *see also Lazare Kaplan Int’l, Inc. v. Photoscribe Techs., Inc.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010) (refusing to resolve an infringement issue as a matter of claim construction on appeal where neither party had asked for a construction on the

point in the district court and explaining that “the parties’ dispute concerns factual questions relating to the test for infringement and not the legal inquiry of the appropriate scope of the ‘positional accuracy’ limitation”).

B. The District Court’s Implicit Finding that Emulex Has Not Waived the “At a Rate” Issue Should Not Be Disturbed.

Emulex’s non-infringement position on appeal is the same as it has always been: the half-rate architecture of the accused products works differently than the ICM recited in claim 8. Emulex’s expert, Dr. Nikolic, explained that the accused products do not infringe because claim 8 “requires a particular operation of the interpolator control module,” namely the “algorithm” described in the claim that the “rate of rotation corresponds to a frequency offset between the sampling signal and a serial data signal so as to reduce the frequency offset between the sampling signal and the serial data signal.” [A601 (145:5-14)] And, with respect to each product, he stressed that the entire ICM limitation was missing. [A603-04 (155:22-158:10, 160:1-20)] Dr. Nikolic also specifically discussed the “rate of rotation” as one of the reasons why the half-rate architecture of the accused products differed from the mechanism of claim 8. [A602 (149:4-150:11)] Emulex’s JMOL briefing and argument, both during and after trial, stressed that the entire ICM limitation—including the “at a rate” language—was missing from the accused products because of the differences between half-rate and full-rate

architecture. [A1762-63; A1739-40; A1798; A1803-05; A2204-06; A2299-2301; A792 (183:21-184:8)]

Broadcom nevertheless wrongly asserts waiver because Emulex's trial presentation stressed one portion of the claim language—"so as to reduce." But the issue of "at a rate" was also fully litigated before the district court. In fact, when Broadcom initially argued that "at a rate" was being newly raised by Emulex in post-trial JMOL proceedings, the district court pushed back, causing Broadcom to address the merits:

THE COURT: Whether they raised it [the "at a rate" issue] earlier or not, the record still has to sustain each and every part of the limitation.

[Broadcom's lawyer]: It does. [Broadcom then proceeded to argue the merits of the issue.]

[A2306] The district court's subsequent JMOL opinion addressed the "at a rate" issue specifically. The district court first stated that Emulex was arguing about the lack of proof on the "requirement that the ICM rotate the interpolated phase of the sampling signal 'at a rate corresponding to a frequency offset' so as to reduce the offset between the sampling signal and the serial data signal." [A37] The internal quotes around the phrase "at a rate corresponding to the frequency offset" appear in the district court's opinion, and the phrase is followed by the district court then comparing the accused product to the "at a rate" portion of the claim. [A37-39] Although Emulex disagrees with the court's analysis, the fact that it reached the

merits means that it rejected any notion of waiver. The court's comment at oral argument further illustrates that it was rejecting any waiver argument. [A2306] This Court should not disturb that determination. *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1343-44 (Fed. Cir. 2009) (finding no waiver where a party had argued waiver to the district court but the district court proceeded to decide the issue on the merits); *Gaus v. Conair Corp.*, 363 F.3d 1284, 1287-88 (Fed. Cir. 2004) (finding no waiver where the district court determined it was permissible for a party to elaborate on the grounds for its sufficiency of the evidence challenge after trial and reached the merits).

C. Only A Jury Can Resolve the Conflicting Evidence and Inferences Regarding Infringement.

In denying Emulex its right to have a jury compare the accused products to the claims, the district court made three independent errors: (1) it relied on conclusory testimony from Broadcom's expert—testimony that at most would entitle Broadcom to have infringement presented to a jury, not entitle Broadcom to overcome the high threshold for JMOL of infringement discussed at pp. 27-29 of the blue brief; (2) it made inferences about what the accused product “must” do to work; and (3) it discredited the evidence of Emulex’s expert that the limitation was not met. The JMOL cannot stand in light of these errors: a court cannot resolve disputes between experts or make inferences in favor of the movant on JMOL.

Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986) (“Credibility

determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge.”).

1. The District Court Impermissibly Credited Broadcom’s Vague and Conclusory Expert Testimony.

Broadcom gave no explicit evidence that the accused products meet the entire ICM limitation of claim 8. [Blue Br. at 29-31] Instead, Broadcom’s expert, Dr. Stojanovic, gave a generic example of a device where a data signal may contain 10 billion bits per second while the sampling signal may only make 9.9 billion samples per second, resulting in a loss of 10 million bits, then explained that the “job of the interpolator control module is to correct for this.” [A488 (131:9-132:6)] He further opined that the internal operation of the ICM tries to maintain this type of frequency synchronization:

The reason is that the interpolator control module tries to maintain frequency synchronization or match between the incoming data stream and the sampling that happens in the receiver. That’s what this SOC 442 does.

[A488 (130:20-24)] This statement says nothing about *how* the ICM allegedly attempts to maintain frequency synchronization. Dr. Stojanovic’s testimony regarding the other accused products was even more conclusory. For the accused Blade Engine 3 (“BE3”) and Lancer, he referred back to his earlier, deficient testimony regarding the SOC442, even though these circuits have different designs. [A491-93 (144:12-145:3, 149:13-150:8)] For the accused Blade Engine 2

(“BE2”), he did not attempt to explain how the remainder of the ICM limitation was met. [A495 (158:1-17)]

2. The District Court Relyed On Its Own Factual Inferences Adverse to Emulex, the Non-Movant.

Dr. Stojanovic’s testimony lacked any real detail and at most would have permitted a jury to attempt to draw inferences about the operation of the accused product as compared to each portion of the ICM limitation of claim 8. In fact, that is what the district court erroneously did when it used this testimony to grant JMOL of infringement. [A37-39] The district court first found that the 10 billion bit example from Broadcom’s expert, and his corresponding discussion of the accused products, showed that “the shift **must be** at a rate corresponding to the offset.” [A37, emphasis added] The court added that “[i]nherent in Dr. Stojanovic’s use of the term ICM is that the device will create a shift in the signal at a rate so as to reduce the offset, here 10 million measurements, or bits.” [A38] But Broadcom’s expert did not testify that the **only** way a product could correct the 10 million bit offset would be to function as claimed, much less that the accused products actually function that way. Instead, the district court simply inferred, favorably to Broadcom, that this was the case. But such inferences are forbidden in the context of JMOL. *Anderson*, 477 U.S. at 255.

3. The District Court Erroneously Discredited Emulex's Evidence of Non-Infringement.

The testimony of Emulex's expert also precludes JMOL of infringement. Dr. Nikolic explained that the accused products do not infringe because claim 8 "requires a particular operation of the interpolator control module," namely the "algorithm" or "mechanism" described in the claim that the "rate of rotation corresponds to a frequency offset between the sampling signal and a serial data signal so as to reduce the frequency offset between the sampling signal and the serial data signal." [A601 (145:5-19)] When comparing this requirement to the accused products, he testified, without objection, that the specification defines the "frequency offset," $\Delta\omega$ as "equal to" $\omega_s - \omega_d$, and that the "rate of rotation" must "correspond, be proportional to delta omega." [A602 (149:4-150:7)] He then testified that the half-rate architecture of the accused products does **not** use a rate of rotation that is proportional to $\Delta\omega$ —instead, "[i]n half rate systems the sampling signal is at the half rate of the input data signal. So this rate of rotation has to follow it, $D\phi/DT$ has to be ω_s minus one half of the ω_D ." [A602 (150:8-11)] Because the accused products' rate of rotation corresponds to $\omega_s - \frac{1}{2}\omega_d$, the rate of rotation (which, like velocity, includes both a direction and a magnitude), does not correspond to the frequency offset.

A reasonable jury could have credited Dr. Nikolic's comparison between claim 8 and the accused product and found no infringement because the rate of

rotation always differs in magnitude and/or direction from the words of the claim, “at a rate corresponding to a frequency offset between the sampling signal and the serial data signal.”

D. Emulex Neither Requested, Nor Does It Need, any Construction of the Term “Rate Corresponding to a Frequency Offset.”

Broadcom tries to attack Dr. Nikolic’s comparison between claim 8 and the accused products by spinning the issue as one of claim construction. [Red. Br. at 28-32] But Broadcom’s arguments are either factual, presented for the first time on appeal, wrong, or all three. For example, Broadcom complains that Emulex attempts to redefine “corresponding to” as “equal to.” [Red Br. at 29-30] That has never been Emulex’s position. As Dr. Nikolic’s testimony makes clear “corresponding” need not mean “equal to”—he took it to mean “proportional to.” [A602 (149:4-150:7)] That aside, even if “corresponding” is defined as “similar, comparable, and/or matching,” as Broadcom urges at p. 29, a reasonable jury could conclude that the accused rate of rotation is not “similar, comparable, and/or matching” the claimed rate of rotation.

Broadcom also wrongly uses the guise of “claim construction” to argue that Emulex excludes an embodiment in the specification. But Broadcom treated this example in the specification as a factual issue, having its own expert testify about it [A490 (137:11-138:18)], and cross-examining Emulex’s expert on the quarter-rate sampler embodiment. [A638 (84:12-17)] More fundamentally, nothing requires

every example in the specification to be imported into the meaning of the ICM limitation in claim 8, particularly when alternate embodiments are covered by another, unasserted claim. *See Baran v. Medical Device Techs., Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010) (“It is not necessary that each claim read on every embodiment”).

Asserted claim 8 recites a specific circuit where the rate of rotation must correspond to the offset between the sampling signal (ω_s) and the serial data signal (ω_d), not one quarter the serial data signal ($\frac{1}{4} \omega_d$). Unasserted claim 3, by contrast, does not contain this same limitation. It instead recites a circuit where the sampling signal is merely “**related** to the interpolated phase of the timing signal.” (’150 patent, claim 8). This same language is also found in the portion of the specification that Broadcom relies on in its brief—specifically, Broadcom notes that the specification recites an embodiment where the “sampling frequency ω_s and serial data signal frequency ω_d need to be **related** to one another. . . .” [Red Br. at 32] This language describes the embodiment recited in claim 3, not the embodiment recited in asserted claim 8.

E. Emulex’s Expert Did Not Concede Infringement.

Broadcom’s analogy to *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998), does not match the present trial record. In *Nobelpharma*, the patentee introduced at trial the deposition testimony of an

inventor in which he explained that he had not disclosed the best mode of his invention in the patent. *Id.* at 1063. The plaintiff introduced no further evidence to contradict this testimony. *Id.* at 1065-66. The Court approved JMOL of invalidity for failure to disclose the best mode based on that clear, uncontested admission—admissions that required no inferences or resolution of conflicting testimony. *Id.*

Here, by contrast, Emulex’s expert never conceded infringement—he stated on cross-examination that he was disputing the entirety of the operation of the ICM limitation in claim 8. [A638 (82:12-14) (“I am basically disputing that it practices that limitation on the claim that describes the operation of the interpolator control module.”)] Moreover, Emulex’s expert testified that the ICM on the accused products worked differently than the mechanism of claim 8. [A601 (145:3-19)]

Neither Emulex nor its expert conceded that the accused products infringe “sometimes but not always.” [Red Br. at 18, 23-24, *citing* A791, A579] Broadcom loosely throws that catchphrase around its brief but the trial record is to the contrary. As shown in Dr. Nikolic’s example, the accused products **never** cause the phase to rotate “at a rate corresponding to a frequency offset.” [A602 (149:4-150:11)] In some circumstances, the rate of rotation of the accused products is different in both magnitude and direction from what is claimed. In other circumstances the rate of rotation is different in magnitude from what is

claimed. A reasonable jury could conclude that at *no* time does the rate of rotation of the accused products correspond to what is claimed.

Likewise, Broadcom's spin on Emulex's demonstrative, [Red Br. at 33-34], is something it was free to argue to the jury in closing, but it is not the kind of clear admission required to grant JMOL of infringement. Crediting Emulex's expert testimony, and taking all inferences in Emulex's favor, as is required when reviewing a JMOL on infringement, a reasonable jury could have concluded that Broadcom did not show that the accused products map onto the claim limitations, a question of fact. *See Int'l Rectifier*, 361 F.3d at 1369.

Indeed, this Court has held that a party without the burden of proof need not introduce *any* evidence. *See ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 872 (Fed. Cir. 2010). So Broadcom cannot justify JMOL where Emulex *did* introduce expert evidence of non-infringement simply because Broadcom has a different interpretation of the testimony. This Court should thus vacate the grant of JMOL and, if it does not find claim 8 obvious as a matter of law, should remand for a trial on infringement.

II. CLAIM 8 OF THE '150 PATENT IS OBVIOUS AS A MATTER OF LAW.

Broadcom does not dispute that Pickering discloses every element of claim 8 except a "data path adapted to sample and quantize" incoming data. The only purpose of the Pickering clock recovery circuit, however, is to sample and quantize

data. Pickering itself explains that its circuit is intended for that purpose, describing the problem it set out to solve as the same problem that Broadcom's red brief says was solved by the '150 patent. The motivation to use Pickering to arrive at claim 8 is reflected in both Pickering itself and the market pressure toward smaller, cheaper communications devices that support higher data rates with fewer errors. The skilled artisan would reasonably expect to succeed based on Pickering's own disclosures and the district court's unchallenged finding that the '150 patent led to no "unexpected and superior results." The secondary factors do not outweigh this evidence. Claim 8 is thus obvious as a matter of law.

A. Pickering Applies to the Problem Addressed by the '150 Patent.

1. Pickering's Sole Disclosed Purpose is to Demodulate Data.

The record establishes that the purpose of Pickering's clock recovery circuit is to sample and quantize the incoming data signal. Emulex's expert testified that the only reason to recover clock data is to use it to sample and quantize the data signal. [A607 (169:8-170:2)] One of Broadcom's co-inventors, Michael Le, acknowledged the relationship between clock recovery and data recovery, testifying that "[o]ne of the jobs of recovering that data is we have to recover what is called a clock that is embedded in that data." [A471 (64:8-15)] The testimony from Broadcom's expert cited at p. 39 of the red brief does not identify any other purpose for recovering the clock. [A748 (8:15-19); A751] Dr. Le also did not

identify any other purpose of clock recovery other than to sample and quantize an incoming data signal.

What is more, Pickering itself demonstrates that the sole disclosed purpose for its clock recovery circuit is to demodulate—*i.e.*, sample and quantize—data. It begins with a discussion of the prior art, called “phase locked loops” (PLLs), and states that such circuits “are typically used where it is desired to generate a clean clock signal synchronized with an incoming signal.” [A13044 at ¶ 3] “One particular application of PLLs is in ***data transmission*** systems, for instance communication devices...” [*Id.*, emphasis added] In such communications devices, “it is important to recover a corresponding clock signal at the receiver in order to demodulate the received signal.” [*Id.*]

Pickering goes on to describe the problems with prior art PLLs, specifically that PLL architectures used in “close proximity” create problems because the voltage-controlled oscillators (VCOs) in each PLL architecture can interfere with one another. Significantly, Pickering frames the “PLL in close proximity” problem as one that arises specifically in the context of communication systems:

In a typical communication system there may be many PLLs in close proximity. For instance there may be PLLs both in the transmit side of the system and in the receive side, and also in a multi-channel system there may be a PLL for each of the channels.

[A13044 at ¶ 4] This is the same problem that Broadcom describes at p. 10 of the red brief when it discusses interference between PLLs that arose where a single

chip was “used to process data from multiple different signals at the same time,” because “each receive-lane required its own PLL.” The red brief then explains at p. 12 that the ’150 patent’s phase interpolator—which everyone agrees is disclosed by Pickering—was intended to solve this problem.

Pickering also ties the problem specifically to the need to achieve high *data* rates: “[a]lso as data rates increase, the power consumption of the VCO required to generate a satisfactorily low-noise signal increases and this is compounded if more than one VCO is implemented in any particular device.” [A13044 at ¶ 4] Indeed, Pickering states that his invention does not require the presence of multiple VCOs, and that “[t]his invention is particularly suited to situations such as those referred to above *in the communications field...*” [Id. at ¶ 11]

The claimed “data path” in the ’150 patent, which is simply the path “from the input, through the equalizers, and to the output” of the circuit, [A477 (86:8-10)], would be present in any such communications device. Pickering is thus “clearly directed toward the same problem” the ’150 patent inventors were trying to solve. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010).

2. **Broadcom’s Attempt to Limit Pickering to Clock Recovery Is Inconsistent with *KSR*.**

Broadcom repeatedly errs by trying to distinguish Pickering on the basis that it does not explicitly disclose data recovery and, according to Broadcom, is supposedly directed to the problem of clock recovery only. [Red Br. at 37-42] As

just discussed, Pickering’s discussion of demodulation, communications systems, and high data rates confirms that it is directed to data recovery. But, putting that aside, *KSR* instructs that the skilled artisan will apply a piece of prior art and use it for more than it specifically and expressly discloses. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 402 (2007) (observing that “familiar items may have obvious uses beyond their primary purposes”). Moreover, *KSR* instructs that obviousness does not require an explicit instruction to modify the prior art to arrive at what is claimed. *Id.* at 419 (prohibiting overemphasis on “the explicit content of issued patents”). These principles render Broadcom’s criticisms of Pickering legally irrelevant to an obviousness analysis.

B. The Skilled Artisan Was Motivated to Use Pickering to Arrive at Claim 8.

“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

Here, the motivation to use Pickering in a clock/data recovery circuit, as claimed, can be found in Pickering itself, as discussed above. It can also be found in the problem to be solved: the design of a “high-speed transceiver device,” [A474 at 75:5-14], which would necessarily require both a data path and a clock recovery mechanism. It can be found in the level of ordinary skill in the art, which included “several years of post-graduate experience with CDR circuits.” [A1179]

Anyone who worked with Clock/Data Recovery circuits would know they are used to align clocks to recover data. [A607 (170:16-21)] The use of a “data path” thus would have been well within the “background knowledge, creativity and common sense of the person of ordinary skill.” *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009).

The motivation can also be found in the market pressure to create smaller, faster, and cheaper electronic equipment, which Broadcom’s own expert described at trial. Dr. Stojanovic testified that there was a need for the claimed invention because of the “desire to improve the throughput and lower the cost and power of networking equipment” and “a desire to always try and combine those [multiple chips handling one lane each] and add it into a single chip or as few chips as possible to lower the costs and while, at the same time, also, increasing the data rate per lane.” [A751 (20:2-15)] Broadcom cannot, on the one hand, argue that there was a pressing need for the alleged invention while, on the other hand, deny the existence of a motivation to satisfy the need. This market pressure would have led the skilled artisan to apply Pickering just as Emulex has urged, especially where Pickering itself urges such an application.

C. Pickering Demonstrates There Was a “Reasonable Expectation of Success.”

Broadcom’s claim that the combination of Pickering and a data path “would not have worked for its intended purpose,” as shown at pp. 43-44 of the red brief,

relies on the erroneous premise that the Pickering circuit requires that the clock and data signals have the same phase. In fact, Pickering expressly teaches the opposite. Pickering explains that the clock and data signals may have “any desired phase relationship,” including “a predetermined phase offset”:

- “In broad terms, the invention is [an] apparatus for producing an oscillating signal in a predetermined phase relationship with an input signal... The output signal may be desired to be in phase with the input signal *or to have a predetermined phase offset.*” [A13045 at ¶ 16]
- “In the following description it will be assumed that signal 12 is intended to be in phase with input signal 14, but it will be *apparent that simple alterations can be made* to the parameters of operation *to achieve any desired phase relationship.*” [A13045 at ¶ 20]

All a skilled artisan would need to do is to use a “predetermined phase offset” in order to shift the waveform shown in Broadcom’s brief to sample at the correct locations. In fact, Pickering itself shows such an example of outputting two different clock signals, offset from one another by 180°. [A13056 at Fig. 9]

Moreover, claim 8 does not require sampling at an “optimal” time, nor does it require a specific minimum data rate. Broadcom thus imposes on Pickering additional requirements which are simply absent from claim 8. As Pickering teaches that “any desired phase relationship” may be achieved, the skilled artisan would have a wide range of acceptable options in Pickering to reach the solution actually claimed in claim 8—whether or not it resulted in the optimum solution demanded by Broadcom.

Broadcom's argument is also belied by the fact that the district court rejected the jury's finding of "unexpected and superior results from the claimed invention" as "not supported by substantial evidence." [A244] Broadcom does not challenge that part of the district court's analysis on appeal. And, if there was nothing unexpected about how the invention performed, the skilled artisan would have had at least a reasonable expectation that it would succeed.

D. The Strong Evidence of Obviousness Outweighs the Secondary Considerations.

This Court weighs *de novo* any secondary considerations with the other *Graham* factors to determine whether a claim is obvious as a matter of law. *Alcon Research, Ltd. v. Apotex Inc.*, __ F.3d __, 2012 WL 3224040, at *8 (Fed. Cir. Aug. 8, 2012) ("We weigh these objective considerations along with the other parts of the obviousness analysis to determine *de novo* whether the claims would have been obvious to one of skill in the art."). Here, even if the Court credits all of Broadcom's secondary considerations evidence, that evidence does not outweigh the other strong evidence of obviousness. *See id.*; *see also Perfect Web Techs.*, 587 F.3d at 1333 ("as we have often held, evidence of secondary considerations does not always overcome a strong *prima facie* showing of obviousness"). That aside, Broadcom's evidence on each of the secondary factors is lacking.

First, with respect to "long-felt need," Broadcom mentions problems associated with using VCOs in multiple high-speed data paths, but as noted above,

these are the same problems identified and solved by Pickering. Moreover, Pickering is so close to the '150 patent that the claims cannot be said to have addressed any long-felt need. *See Geo M. Martin Co. v. Alliance Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1304-05 (Fed. Cir. 2010) ("Where the differences between the prior art and the claimed invention are as minimal as they are here, however, it cannot be said that any long-felt need was unsolved.").

Second, Broadcom argued at trial that four separate patents cover its own communications products. Emulex does not contend, as Broadcom suggests, that commercial success can never be found when multiple patents cover a product. At the same time, in order to show nexus, Broadcom must put forward some quantum of evidence explaining the contribution of each patent to that commercial success. *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1363-64 (Fed. Cir. 2012) (discounting commercial success where it was unclear what that success was attributable to). This Broadcom failed to do.

Third, Broadcom's reliance on the acceptance of Dr. Le's IEEE paper as "praise" by others is misplaced because it is impossible to know whether that article was selected because of its discussion of some purportedly novel feature of the '150 patent, or for some other unknown reason.

Secondary considerations were not intended to resurrect patents that a skilled artisan would find obvious. *See, e.g., DyStar Textilfarben GmbH & Co.*

Deutschland KG v. C.H. Patrick Co., 464 F.3d 1356, 1370-71 (Fed. Cir. 2006)

(finding patent obvious despite evidence of “considerable commercial success”

where an ordinary dyeing process designer using his “chemistry background”

would have realized he could improve the dyeing process by applying a known

vacuum packaging process to stabilize a known indigo solution).

Here, Pickering raised and solved the exact same problem as the '150 patent (interference among multiple PLLs/VCOs in close proximity), for the same end-goal (to achieve high data rates in communications systems), and used the same solution (a phase interpolator that rotates the phase of the sampling signal at a rate corresponding to the frequency offset between the sampling signal and the data signal so as to reduce the frequency). Having framed the same problem, and found the same solution to what Dr. Le described as the “hard part” of the invention, for the same ultimate purpose, Pickering teaches a skilled artisan everything needed to render claim 8 of the '150 patent obvious as a matter of law.

III. THE SCOPE OF THE DISTRICT COURT'S INJUNCTION WAS AN ABUSE OF DISCRETION.

After Emulex's blue brief, certain claims between the parties were dismissed, and portions of the injunction have been modified as a result. The only remaining issue is whether Emulex may continue to make sales and otherwise supply BE2 and BE3 chips for use in OEM products where the design competition

at the OEM was completed *before* the injunction issued.¹ It was an abuse of discretion for the district court to enjoin such activities. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1379 (Fed. Cir. 2008).

A. Broadcom Cannot Establish Irreparable Harm.

After the first injunction,

It also confirms the court erroneously discounted third-party evidence showing that there is no connection between the alleged infringement and the alleged harm. In the absence of evidence of irreparable harm, granting an injunction was an abuse of discretion.

¹ Emulex is not challenging the District Court's decision to prohibit engaging in future design wins with enjoined parts.

1. [REDACTED]

[REDACTED]

[REDACTED]

Broadcom argues that it will suffer future irreparable harm from Emulex's past design wins with "tier one" OEMs Hewlett-Packard ("HP"), IBM, Dell and Cisco. Broadcom notes that "Broadcom and Emulex compete fiercely for business from four 'tier one' OEMs ... which collectively supply the majority of the market." [Red Br. at 52] Broadcom claims these design wins create "incumbency effects" that "carry over from one design cycle to the next," harming Broadcom in future design competitions. [*Id.*] These claims are not credible given that

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2. Broadcom Overstates the Competition Between the Parties.

Broadcom's briefing focuses on competition between the parties. But "competition" is not an *eBay* factor and does not by itself establish irreparable harm. *See eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006). Nor does Broadcom show that Emulex's competition is the source of harm to Broadcom. To the contrary, the same data presented by Broadcom's red brief

² [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

shows the opposite.

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Given the complexity of this market, the fact that Emulex's market share has increased while Broadcom's has declined does not establish irreparable harm to Broadcom *due to Emulex*, as opposed to other forces or market participants. *See Apple, Inc. v. Samsung Elecs. Co., Ltd.*, 678 F.3d 1314, 1324-25 (Fed. Cir. 2012) (affirming denial of preliminary injunction where the evidence "did not clearly show that Samsung's allegedly infringing design was responsible for Apple's lost sales").³

3. The District Court Abused Its Discretion by Relying on Alleged Harm That Lacked Any Nexus to the Enjoined Conduct.

Broadcom does not show any "causal nexus" between its alleged harm and the enjoined conduct that "show[s] that the infringement caused harm in the first place." *See Apple*, 678 F.3d at 1324.

First, Broadcom has shown no evidence of demand for the features claimed in the '150 patent. It presented no survey evidence or any other evidence of customer demand for these features among Emulex customers. And any evidence regarding commercial success of Broadcom's products was muddied by

³ Broadcom's evidence of lost market share is nothing like that in *Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142, 1154 (Fed. Cir. 2011), where the patentee presented specific evidence of a major customer cancelling a contract originally awarded to patentee and awarding it to the alleged infringer.

Broadcom's claim that the commercial success was due to four separate patents, not just the '150 patent. [Blue Br. at 41]

Second, Broadcom is wrong to suggest that any patented feature, no matter how small, that can "enable" or be "useful" in a product is sufficient to support an injunction. *See eBay*, 547 U.S. at 396-97 (Kennedy, J. concurring) (noting that an injunction may not be appropriate where "the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations"). To the contrary, this Court has found irreparable harm lacking where "the patented feature does not drive the demand for the product" and/or there is "considerable countervailing evidence indicating that [the patented feature] was not a determinative factor in consumer decisionmaking." *Apple*, 678 F.3d at 1324.

Here, there are numerous declarations from the largest OEMs in the industry explaining that [REDACTED]

[REDACTED] [Blue Br. at 56] And, despite Broadcom's protestations at pp. 55-56 of the red brief, these OEMs have stated emphatically and repeatedly under oath that [REDACTED]

[Redacted] [Blue Br. at 11, 56-58]. The district court abused its discretion in discounting this uncontested testimony.

CONCLUSION

For the reasons above, the district court's judgments of infringement and validity should be reversed and the injunction vacated. Even if the district court's liability ruling is affirmed, the Court should vacate the '150 patent injunction as to sales of products for which there was a preexisting design win.

Dated: August 13, 2012

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CERTIFICATE OF SERVICE AND FILING

I certify that on this the 13th day of August, 2012, the foregoing **DEFENDANT-APPELLANT EMULEX CORPORATION'S NON-CONFIDENTIAL REPLY BRIEF** was filed with the U.S. Court of Appeals for the Federal Circuit by means of the Court's CM/ECF system. I further certify that the foregoing was served on Plaintiff-Appellee's counsel by means of the Court's CM/ECF system, which sent a Notice of Docket Activity to:

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CERTIFICATE OF COMPLIANCE

The undersigned attorney certifies that the opening brief for Defendant-Appellant Emulex Corporation complies with the type-volume limitation set forth in Fed. R. App. P. 28.1(e)(2)(B). The relevant portions of the brief, including all footnotes, contain 6,976 words, as determined by Microsoft Word.

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